Vol. 75 April 1958 No. 4

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APRIL 1958

JOHN FITCH LANDON, M.D., *Editor*

CONTENTS

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ARCHIVES OF PEDIATRICS

Vol. 75 APRIL 1958 No. 4

CONGENITAL CYST OF THE COMMON BILE DUCT IN INFANTS

Two Case Reports

JOSE E. RIVAROLA, M.D.*

Buenos Aires

The congenital cyst of the common bile duct is a very rare malformation. It is also called cystic dilatation, megacholedochus, diverticulum of the common bile duct. We believe it should be named congenital cyst, or idiopathic dilatation of the choledochus.

The rare incidence of this anomaly was demonstrated in the statistics of Judd and Greene, who encountered one case in 1381 operations of the bile duct. Smith has recorded two cases in 757,000 admissions to the Presbyterian Hospital of New York. It was discovered for the first time by Vater in 1723. Todd gives a good description of the anomaly, and, in 1924, Neugebauer makes the first preoperative diagnosis of a case.

Shocket and collaborators gather 200 cases in the world literature up to 1955. Smith, in 1942, reviews 183 cases, and Shallow, Sherman and Wagner in 1943 review 175 cases.

In Argentina, there are six published cases since 1928, and in 1954 Escuder encounters the first case in the Children's Hospital of Buenos Aires of an infant, 16 months of age, with a cystic dilatation.

It is three times more frequent in females than males. Sixty per cent of the cases are seen in children under 10 years of age.

The etiopathogenesis is obscure. The theories are too numerous to describe and have been discussed by Shallow, et al. Synthesizing, we can mention two main groups of thought, one that attributes the dilatation to a distal obstruction of the common bile duct, and the other which attributes it to a congenital origin.

The most accepted theory is that of Yotuyanagi who explains the malformation as due to an unequal proliferation of the epithe-

* Director of Surgical Department, Children's Hospital, Buenos Aires

lial cells in the embryonic stage when the primitive choledochus is still imperforate. If the proliferation of the upper segment predominates over that of the lower segment during this stage of physiologic occlusion, there will be a dilatation at the expense of the upper segment.

If an obstruction were the cause of the dilatation, one would suppose them to be more frequent. Besides, in our observations and in most of the cases described, the dilatation is situated in one segment of the common bile duct without participation of the hepatic and cystic ducts, and gallbladder. In some cases the gallbladder can show a cylindrical dilatation which can extend to the intrahepatic ducts, and this can be explained as due to the obstruction caused by the choledochus cyst. Heiliger has found a cyst of the common bile duct in a fetus, and Macpherson in a newborn, which speak in favor of a congenital origin.

The pathologic anatomy shows that the dilatation is situated in a more or less large segment of the choledochus, usually distant from the duodenum. The last part of the common bile duct is narrowed or absent. If the dilatation is low, as in the case observed by Seeliger and Mayesima, the pancreatic duct can open directly into the cyst. The cyst can also develop, as in our observation, toward the pancreas as we shall later comment.

The cystic dilatation has thickened walls and the interior wall generally loses its epithelium, or a cylindrical or cubic epithelium is found. In infected cases there can be ulcerations.

The size of the cyst is variable, the volume varying from 30 cc. to 5.200 cc. as in the case observed by Yotuyanagi. The cystic and hepatic ducts open in the upper segment of the cyst. In some cases the two branches of the hepatic duct can open separately so that there are three orifices of communication.

Calculi have been found in the cystic dilatation, and in some cysts there have been calcified deposits in the interior wall. As Shallow has pointed out with reference to the symptomatology, a tumor is present in 70 per cent of the cases, obstructive jaundice in 70 per cent, and pain in 59 per cent. Vomiting and fever may accompany these symptoms.

If jaundice is present, it may be constant or intermittent. In the first case, the cyst is usually associated with an atresia of the end portion of the choledochus. In the intermittent type, jaundice is usually present when the tumor enlarges in size, and disappears when the tumor diminishes.

The preoperative diagnosis is not easy, and only in 15 per cent

of the cases has this been obtained. The surgeon is usually surprised on opening the abdomen to find this tumor whose nature is at first a little difficult to determine.

Combined fluoroscopy of stomach, duodenum, pyelograms and retroperitoneal air can only aid in diagnosing the subhepatic and retroperitoneal nature of the tumor. Contrast x-ray films of the bile ducts does not show the cyst image because of the excessive dilution of the drug in a large quantity of bile.

A valuable sign in the diagnosis is the extraordinary quantity of B bile which can be obtained with duodenal drainage. When quantities over 200 cc. are obtained, the presence of a cystic dilatation should be suspected. In a case observed by Bengolea and Velazco Suarez, 750 cc. were obtained.

The presence in a newborn or young infant of a persistent jaundice accompanied by the evidence of a large smooth tumor situated in the right upper quadrant should make one suspect a cyst with atresia of the last portion of the choledochus.

Several surgical procedures have been employed to correct this anomaly. The marsupialization of the cyst with an external drainage is a procedure that should be discarded because of the high mortality rate following its use. It has some times been used as a first step to an internal anastomosis.

The procedure with the lowest mortality rate is the anastomosis of the cystic sac to the duodenum. Others advise the anastomosis of the sac to the jejunum with the Y technique of Roux. As Cole has pointed out, in the latter case it is advisable to leave a large loop of more than 48 cm., creating in this manner a valve effect.

The resection of the sac and the hepaticduodenostomy is the most physiologic procedure, but not advisable because it does not offer the guarantees of a simple anastomosis.

CASE REPORTS

Case 1. R.R.C., 2½ month-old-male, admitted on the 5th of January, 1954.

Family history: Parents and two siblings are living and well. Past history: Normal pregnancy; full term. Birth weight, 3 kgs. Bottle fed.

Present illness: Five days after birth, infant became jaundiced, and this was accompanied by vomiting and fever. He received antibiotics, antispasmodics, vitamin K, and parenteral fluids. His condition improved rapidly and he was sent home where he continued fairly well although the jaundice persisted with varying

degrees and the mother noticed that the stools were white and the urine dark. As his condition did not improve, and he began to run a temperature again, he was brought to this hospital and admitted.

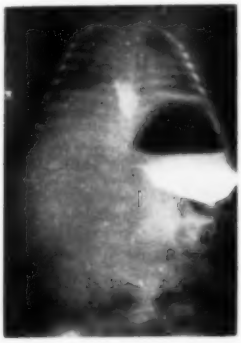
Physical examination: A fairly well developed and nourished male infant of 2½ months with a marked jaundice of skin and conjunctivae, and running a low fever. Abdomen markedly distended, especially in the right upper quadrant. On palpation, liver border appears to be within normal limits. Under the liver can be felt a tumor about the size of a grapefruit, round, hard and smooth, whose upper part is lost under the liver and the lower part extends beyond the umbilicus. The rest of the infant's physical examination is non-contributory.

Laboratory data: RBC: 3,030,000. WBC.: 11,200. Polys: segmented 30 per cent, non-segmented 3 per cent. Lymphs: 55 per cent. Eos: 7 per cent. Monos: 5 per cent. Hanger test: after 24 hours and 48 hours, negative. Prothrombin time: 18 inches. Total cholesterol: 143.7 mgs./100 cc. Serum bilirubin: 8.36 mgs./100 cc.; direct: 4.28 mgs..; indirected: 4.12 mgs. Total protein: 7.52 g./100 cc.; albumin: 4.74 g.; globulin: 2.48. Microscopic examination of fecal fat: No fat present. Duodenal drainage: shows a yellowish fluid with very little sediment. Albumin: 0.25 g./100 cc. Bile: 8.5 mgs./100 cc. Cholesterol: 0.07 g./100 cc. X-ray of abdomen shows a large tumor which displaces stomach and duodenum to the left.

Course: Infant was admitted with the diagnostic impression of congenital cyst of the common bile duct. During the first six days he was febrile, took feedings poorly, and his abdomen continued to increase markedly in size with the appearance of a collateral circulation. He was treated with prostigmine and rectal tube with slight relief. Subcutaneous fluids and plasma were given. On the third day after he became afebrile, it was decided to operate.

Operation: Intratracheal anesthesia with ether-oxygen and curare. He received a continuous drop transfusion of blood during the operation. A transverse supraumbilical incision of about 10 cm. was performed on the right side. The opening of the peritoneum showed a large cystic tumor of smooth appearance which occupied practically the entire abdominal cavity, extending to the pelvis and displacing the intestines to the left, and on top, contacting the liver at the level of the hepatic ducts. The digital exploration confirmed the diagnosis; the cyst was aspirated and a liter of fluid cloudy bile was obtained. The empty cystic sac was then liberated, firstly from the lower side of the duodenum which

was displaced forwards and to the left. No communication between the cyst and the duodenum was found. Having freed the sac until it remained attached only by the thickened hepatic and cystic ducts, the sac was opened, and on exploration, the ducts proved to open independently but very close to one another. The cystic artery was ligated, and the gallbladder and cystic duct freed, leaving them attached to the cyst. It is worthy to note that although the cystic duct had no obstruction, the gallbladder contained no bile. The sac together with the cystic duct was then extirpated by cutting between the latter and the hepatic duct, thus freeing the hepatic duct at its opening into the sac. The hepatic duct which has a diameter of ½ cm. was anastomosed to the duodenum with a double suture, leaving in its interior a latex tube fixed by a stitch of catgut.



Case 1. X-Ray

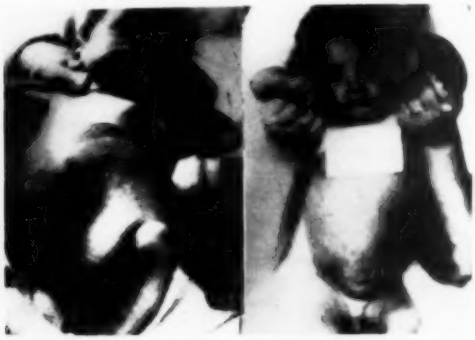
Tumor

A biopsy of liver was made. Powdered penicillin was applied at the site of the anastomosis, and a rubber-dam drainage was inserted. Post-operative: In the immediate post-operative period, the infant's temperature rose to 40° C. which rapidly declined with sponging and cold enemas. For the first 48 hours, the infant received parenteral fluids: glucose solution, Na and K, and Hyprotigen were given. During this time he had a continuous duodenal drainage. By the third day, he had a stool which contained bile, his urine became clearer, and he was gradually started on oral feedings. He was sent home on the twentieth post-operative day.

Follow-up to date shows the child to be developing normally.

Pathology report: Liver biopsy. In the Kiernan spaces can be observed a multiple neoformation of biliary ducts, the majority of

which have no bile. Portal veins are dilated. There are large and abundant deposits of bile in the interlobular ducts, and small deposits in the hepatic cells. The hepatic cells show different degrees of alteration, hyperchromatic nuclei, the cytoplasm in



Case 1. Before and after operation

some is homogenous and in others it is granular and swollen. There is edema in the Disse spaces and great swelling of the Kupffer's cells. Biliary retention with parenchymatous hepatitis.

Case 2. M.Z., 21 month old female, admitted to this service on the 18th of March, 1954.

Family history: Non-contributory. Past history: Normal pregnancy and delivery. Full term. Birth weight 3.300 kgs. No jaundice after birth. Breast fed for one month, and then changed to diluted cow's milk as infant had not recuperated birth weight.

Present illness: In her second month of life, infant had an episode of convulsions followed by an aggravation of her general health. She became jaundiced, her stools became white, and her urine dark. Her condition gradually improved after three months, and her jaundice disappeared. Since then she has occasionally had convulsive seizures with no apparent temperature, but unaccompanied by other signs. She continued to eat poorly, and at one year of age she looked like a six-month-old. At 13 months of age she developed jaundice again, and had a distended abdomen. This condition disappeared spontaneously after a few days. Fifteen days later, she became jaundiced again, and was seen by a pediatrician, who on finding a subhepatic tumor, referred her to this service.

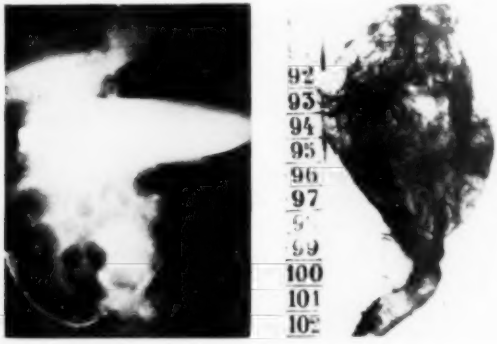
Physical examination: A markedly undernourished and underdeveloped child, who cannot sit up spontaneously and who can only

utter monosyllables. She has a faint jaundice, and there are small hematomas scattered over her skin. The abdomen is distended. Liver border is 2 cm. below costal margin, and under the liver can be felt a hard, smooth tumor about the size of a tangerine. Spleen is not palpated. Her weight is 7.200 kgs. Laboratory data: RBC: 3.000.000. WBC: 12.000. Polys: 40 per cent. Lymphs: 55 per cent. Monos: 5 per cent. Urinalysis: Abundant bile pigments and pus. Total blood protein: 4.2 g./100 cc. Alkaline phosphatase: 13 Bodansky units. Hanger and Takata-Ara tests: intensely positive. X-ray with barium swallow shows an open duodenal frame such as is encountered in tumors of head of pancreas.

Course: Five days after admission during which time her general condition had improved and her weight increased a ½ kg., she came down with diarrhea and fever. She was treated with antibiotics, but her condition showed little improvement, her stools became mucous and bloody, her jaundice increased and her abdominal distention increased daily from the presence of ascitic fluid. On tapping her abdomen, a yellowish clear fluid was obtained. Although the child received antibiotics, subcutaneous fluids, blood and plasma transfusions, her condition showed no improvement, she became markedly pale and her temperature rose to 40° C. Notwithstanding her serious condition, an operation was decided upon as a last recourse.

Operation. Intratracheal anesthesia with ether. Blood transfusion during operation. Transverse incision in right upper quadrant which crosses the mid-line. Peritoneum was opened and an abundant quantity of blood tinged fluid with clots flowed out, giving some idea of the extent of the hemorrhage. Liver was pale and cirrhotic, and the gallbladder was tense. Under the liver there was attached a hard tumor about the size of a large grapefruit. The duodenum which was reduced to a dark violet colored cord passed over the tumor, and its color contrasted with that of the pale violet of the small intestine, and the normal colored large intestine. The tumor was resected, and in so doing the distal part of the choledochus which was about 2 mm. long was cut from the posterior wall of the duodenum. The tumor was extremely hard and non-fluctuant. The bile was aspirated so as to make the dissection easier. The duodenum appeared like a bridge without circulation, and due to its color it was resected together with the cyst and the gallbladder and cystic duct. A gastrojejunostomy was then performed followed by a hepaticojejunostomy. The remaining duodenum was opened to the pancreas. The tail of the pancreas

was all that remained of this gland due to the development of the tumor. A rubber-dam drainage was left in the subhepatic region. The child received 1.300 cc. of blood during the operation which lasted four hours.



Case 2. Showing duodenal frame Tumor

Post-operative: The child died seven hours after the operation. Pathology report: The cystic sac is about the size of a grapefruit, and at one end, there is a tubular formation with a diameter of 1 cm. On opening the sac, its inner surface is granular and irregular, with some depressions intensely impregnated with bile. The histological examination shows the wall to be formed by fibro-collagenous tissue with marked focal hemorrhagic infiltrations. The epithelium is not visible having been reduced to a membrane with no special structure. In the depressed areas can be seen dilated capillaries containing red cells, plasmocytes and abundant macrophages full of grey pigment.

DISCUSSION

In the two cases that have been reported, it can be seen that there are two different types of congenital cysts of the common bile duct. The first, which is the most frequent, develops displacing the stomach and duodenum to the left; and the second which develops toward the pancreas destroying this organ. The latter opens the duodenum frame in the same manner as the tumors of the head of the pancreas, and displaces the duodenum to the right. The x-rays in both cases are completely different, and it was because of this that the preoperative diagnosis in the second case was not made as we did not realize that the x-ray

image could correspond to that of a congenital cyst. In the first case the preoperative diagnosis was made, and the cyst was associated to an atresia of the last portion of the choledochus. Therefore, in the presence of an obstructive jaundice in the newborn, even though abdominal palpation reveals nothing abnormal, it is convenient to make an x-ray study of the duodenum.

These cysts, although discovered in adult age, have their symptoms from infancy. So it is up to the pediatrician to make a complete study in those children who show gastroduodenal alterations, vomiting, pain, and especially in those that on some occasion have had an episode of obstructive jaundice. In our second case, it was unfortunate that surgical intervention was performed at such a late date. The first occurrence of jaundice appeared at one month of age, and the operation was performed at 21 months of age when the hepatic tissue was altered, with cirrhosis and biliary infection.

With reference to the treatment employed, the removal of the cystic sac in the first case encountered no difficulties, and this procedure followed by a hepaticoduodenostomy appears to be more advantageous than the anastomosis of the cyst to the duodenum. In the latter procedure, fluoroscopy has shown that the barium swallow can pass and remain in the cyst, which in the case of food would favor biliary infection.

In the second case the situation was hopeless. The lack of circulation in the duodenum which possibly was the cause of the mucus and blood in the stools which the child had before the operation, made its resection necessary. Had it not been for this situation in a similar case of the cyst developing toward the pancreas, it is preferable to perform a simple anastomosis because the removal of the cyst would mean the resection of part of the pancreas adhered to it.

It is difficult to give definite rules as to procedure in these cases, as treatment actually depends on the individual case. The one procedure that should not be followed is the drainage of the cyst to the abdominal wall, as it results in a high percentage of mortality.

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HUNTINGTON'S CHOREA: REVIEW OF FOUR CASES IN ONE FAMILY. (Canad. M.A.J., 71:493-494, Nov. 1954). The case histories of four siblings, one woman and three men, with chronic chorea are summarized. These patients inherited their disease from their mother, who was affected with it; a maternal uncle was also affected and possibly a maternal aunt. The four patients (one of whom is now dead) have four unaffected living siblings and 10 living children under the age of 17 years. The symptoms in the four patients first appeared in the fourth decade of life and were of such a nature that diagnosis was not certain for some months. All four complained of dyspepsia and epigastric pain, and one had a frank duodenal ulcer. Complaints of nervousness were also a prominent feature, although the predominating characteristic of the disease is the involuntary muscular movements of the choreiform type. The families of the patients were concerned more with the intellectual deterioration, faulty personal habits, and increasing dependence of the patients. Hospital admissions were arranged partly to give the relatives a rest. When out of the hospital the patients were prone to be apprehended by the police, who considered them to be the victims of insobriety. The main problem to be faced is the fate of the 10 surviving children of these unfortunate persons, some of whom are bound to have symptoms in early middle life. It is evident that transmission of the disease cannot be controlled while affected persons are free to have families.—*J.A.M.A.*

MENINGITIS (B. PROTEUS MORGANI) IN A NEWBORN*

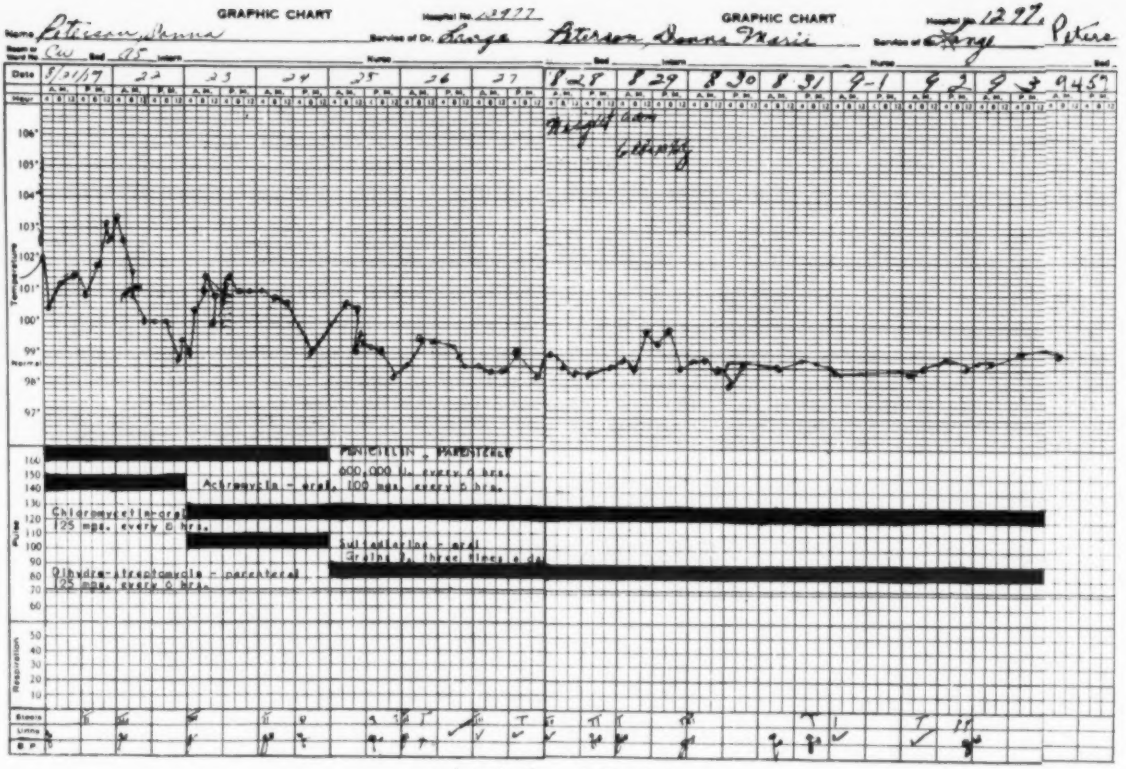
Report of a Case with Recovery

Michael A. Brescia, M.D.
Jackson Heights, N. Y.

This case of B. Proteus morgani meningitis in a newborn is reported for several reasons. Meningitis in the newborn is an unusual disease, and that due to B. Proteus is one of the rarer types. The case is also reported to emphasize anew the paucity of meningeal symptoms in meningitis of the newborn which of course makes the diagnosis difficult if one does not bear in mind the possibility of meningitis in the newborn. The importance of an early diagnosis is palpable in order to institute specific therapy and thereby increase the chances of recovery without sequelae.

The subject has received a great deal of attention, and several excellent reviews are available. No attempt will be made to present an exhaustive review of the subject except to point out some of the previous works. Koplik in 1916[1] wrote a most sagacious review of the subject to which not much can be added even at this late date except the specific therapies that are now available. He reported twelve cases, three of which were in newborns and the others were between 6 weeks and 3 months of age. The etiological agents were streptococcus (4 cases), pneumococcus (3 cases), meningococcus (4 cases) and one due to E. coli. These were all fatal. The next complete review was by Hoyne and Brown in 1948[2] in which they culled eighty-one cases of meningitis in infants under two weeks of age with only seven survivals. None of these were due to B. Proteus organism. Carson and Koch in 1956[3] reviewed three hundred and fifty-four cases of meningitis in children of all ages. The most common organism was H. influenza, accounting for 30 per cent of the cases. In this series there was only one due to B. Proteus. Watson in 1957[4] reported a study of forty-five cases of neonatal meningitis, thirty of which occurred within the first two weeks. He reported a 64 per cent mortality. E. coli accounted for fourteen cases and there were three due to B. Proteus. Applebaum and Abler[5] in a review of 3,662 cases of meningitis reported four hundred and eighty-seven in children under one year of age. Of the four hun-

*Case presented at Monthly Staff Conference, Astoria General Hospital, March 4, 1958.



Astoria General Hospital

The temperature curve is indicated from the day of admission to date of discharge. The filled in dark spaces indicate the days each respective medication was given. From the top down, they are penicillin, achromycin, chloromycetin, sulfadiazine and di-hydrostreptomycin.

dred and eighty-seven cases, twenty-five were listed as due to unusual organisms of which three were due to B. Proteus.

CASE REPORT

Case No. 12977: Female infant born at Astoria General Hospital on August 9, 1957. The delivery was normal and the mother was not ill either pre- nor post-partum. The infant was discharged home on August 13, 1957 well, taking feeds and afebrile. On August 21, 1957, when the infant was twelve days old, the mother thought the child was fussy and felt warm. The infant was seen by Dr. H. Lange who advised hospitilization. On admission, the infant's temperature was 102.0° F. (see chart). The blood count this day was red blood cells 4,820,000, hemoglobin 13.5 gms., white blood cells 29,200 with the following differential: stabs 22, polymorphonuclear leucocytes 55, lymphocytes 16, monocytes 6, and eosinophile 1. Urine showed a trace of albumin. The child was seen by me on August 22, 1957 at which time it was noted that the temperature had risen to 103.4° F. but that at the time of examination the temperature was 100.8° F. The infant appeared comfortable and not acutely ill or toxic. The fontanelle was soft, the neck supple and the Kernig's and Brudzinski's were negative. There were no abnormal ankle reflexes. The umbilicus was healed and clean without any evidence of infection either superficially or deep seated. The infant had a good cry and took her feedings fairly well. Heart sounds were good and regular; lungs well aerated without any adventitious sounds. Abdomen was soft and there were no palpable masses. Pharynx and mouth were negative. Skin was clear. X-ray of the chest was negative. The infant was placed on penicillin, parenterally, and achromycin, orally, empirically. It was decided to place her under observation for 24 hours, and if there were no developments to explain the temperature elevation, a spinal tap would be done.

On August 23, 1957, the next day, there were no additional findings nor were there any changes in the infant's status. However, since we could not account for the temperature elevation to 101.4° F., a spinal tap was done which yielded a yellowish, cloudy fluid which revealed 6,350 W.B.C.'s/cu.mm. with 97 per cent polymorphonuclear leucocytes and 3 per cent monocytes; the sugar was 15.0 mgs./100 cc. and the protein 600.0 mgs./100 cc. The smear showed that what appeared to be a gram negative diplococcus, intracellular and extracellular. These were rarely seen. Because of the possibility, on smear, of meningococcus the dose

of the penicillin was increased, achromycin was discontinued and replaced by sulfadiazine. However, mindful of the possibility of the rare type of gram negative organism that might be responsible for meningitis in the newborn, chloromycetin, orally, was added to the regimen (see chart). The organism that was finally cultured was B. Proteus morgani.

Bacteriology by James E. McNally. The spinal fluid was inoculated into thioglycollate broth and streaked onto blood plate (brain veal agar plus sterile human blood). Twenty-four hours later, cultures revealed gram negative, weakly motile bacilli presenting a minimal swarming or spreading effect. Subcultured on Krumweide agar showed acid and gas in butt and alkaline slant. Fermentation reactions were as follows: dextrose—acid and gas; lactose—negative; maltose—acid and gas; saccharose—negative; indol—positive; Voges-Proskauer—negative; gelatine—negative; urease—positive. Organism reacted negatively to all Salmonella and Shigella antisera. The organism thus identified by cultural and fermentation reactions was B. Proteus morgani. Sensitivity tests on the organism showed, luckily, that it reacted to practically all the antibiotics, particularly, in the order of sensitivity, di-hydrostreptomycin, chloromycetin, aureomycin and polymyxin B.

In the face of the sensitivity report, sulfadiazine was discontinued and replaced by di-hydrostreptomycin, parenteral. Thus chloromycetin and di-hydrostreptomycin were continued for 10 days.

The infant became afebrile on August 27, 1957 and remained so throughout the course of the treatment. The infant took her feeds well and her general condition belied the seriousness of her illness. The spinal tap was repeated three days later. It was clear, without any W.B.C.'s, with sugar of 30 mgs./100 cc. and the culture was negative.

The circumference of the head was 14½ inches on August 25, 1957 and was the same on September 3, 1957, the day before her discharge from the hospital.

The infant was re-examined on December 7, 1957 when almost three months of age. She was in excellent condition with weight 13 pounds and 13 ounces; height 24¾ inches and circumference of the head 15½ inches. The fontanelle was soft and there were no neurological findings. The hearing was apparently normal.

DISCUSSION

This infant made an excellent recovery from a B. Proteus men-

ingitis which would have been virtually impossible in the pre-antibiotic era. Reference has been made to Koplik's paper in which all infants died and to the seven recoveries of Hoyne and Brown[2] out of eighty-one cases. Other cases due to usual and unusual organisms have been reported with recoveries[6, 7, 8]. One unusual infection[9] was a meningitis in a newborn due to both E. coli and Ps.aeruginosa with recovery. One can only postulate the pathogenesis of this disease in the newborn. One is also hard put to explain why usually non-pathogenic organisms are able to produce meningitis in the newborn. Some cases have been reported in prematures,[10, 11] but prematurity in itself is not a predisposing factor as far as can be ascertained at present. Some cases have been noted complicating a cephalhematoma[8, 12]. Whether this was a coincidence or a factor in producing the meningitis is a moot point. In a review of one hundred and eighty cases of sepsis in the newborn, Garces and Araya[13] noted the portal of entry of the infection as the umbilicus in sixty-two (34 per cent) and unknown in forty (22 per cent). Of the one hundred and eighty cases thirty had signs of meningoencephalitis. However, only eighteen had meningitis.

The symptoms of the disease are deceiving in the newborn, particularly if one were to look for the usual signs of meningeal irritation. Any infant who is not doing well or has an unexplained symptom, be it temperature elevation, cyanosis, vomiting or diarrhea should have the benefit of a spinal tap for a more definite diagnosis. Otherwise the diagnosis will be made at autposy[14] if the index of suspicion is not high enough.

The ideal treatment, of course, is to isolate the organism, do sensitivity tests and to use the indicated antibiotic in adequate doses. Alexander[15] advises the use of streptomycin, sulfadiazine and polymyxin B., bearing in mind the nephrotoxicity of the latter. However, polymyxin B. may not be necessary if the sensitivity showed adequate response to other antibiotics.

SUMMARY

A case of meningitis in a newborn is presented. The causative organism was B. Proteus morgani. The infant recovered following therapy with di-hydrostreptomycin and chloromycetin. We reemphasize the importance of suspecting meningitis in any newborn with unexplained symptoms.

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87-10 37th Avenue

Coming Events . . .

The University of Nebraska College of Medicine, Omaha, Nebraska, announces that as part of its postgraduate course, it will hold an Allergy Conference on May 8-9, 1958. The first day's schedule will be dedicated to Pediatric Allergies, with a panel discussion on the "Use and Abuse of Drugs in the Treatment of Allergy" following the Dinner. The subject of the second day's schedule is to be Adult Allergies.

CLINICAL CONFERENCE

TRAINING CONFERENCE ON THE RETARDED CHILD*

TRAINING INSTITUTE ON MENTAL RETARDATION

NEW YORK MEDICAL COLLEGE

FLOWER AND FIFTH AVENUE HOSPITALS

NEW YORK

DR. JOHN B. SCANLAN, Chief Psychiatrist, Mental Retardation Clinic:

This case will be presented by Dr. Morrison S. Levbarg, Assistant Clinical Professor in the Department of Pediatrics, New York Medical College.

DR. MORRISON S. LEVBARG: This case is presented as an example of the team approach, in the diagnosis and treatment of mental retardation.

Marlene G. entered the Clinic on August 15, 1953 at the age of 12, because of the mother's inability to control the home situation, a situation that had arisen due to the difficulty of her husband and her son in accepting the retardation of Marlene.

The mother first realized that the child was retarded at the age of 18 months, when she noticed that she did not keep up with the other children in the neighborhood. She had difficulty in walking and talking and showed no awareness of toilet-training. At the age of 2 years, she was refused admission to a neighborhood nursery because of her inability to keep herself clean, and because of a mild retardation.

At the age of 6 years, she was taken to Columbia University, where a diagnosis of borderline retardation was made. At that time she was placed in a private parochial school due to the parental inability to agree to her placement in a CRMD class. At that time, age 12, when she entered the Clinic, she was in the 6th grade of this school.

The mother who is Rh negative stated that during her pregnancy she had frequent fainting spells and that in the ninth month

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she fell, striking her stomach. There was no history of vaginal bleeding at that time. This was her first pregnancy, and delivery was uncomplicated. At birth the infant weighed six pounds, six ounces and was Rh positive. There was no history of jaundice or cyanosis at birth. No maternal antibody titres were investigated.

The developmental history indicated that the child showed a lag in all accomplishments of about six to twelve months.

On admission to the Clinic physical examination revealed a well developed, well nourished girl, aged 12, weighing 155 pounds and 62¾ inches tall. Physical examination was negative except for marked adipose tissue of the buffalo type of distribution. A provisional diagnosis of juvenile obesity, was made, with the differential diagnosis to include endocrinopathy, mental retardation and secondary emotional disturbance.

The endocrine consultation was negative for any type of endocrine problem and a diagnosis of juvenile obesity was made. The orthopedic consultation diagnosed pes planis, bilaterally. The treatment prescribed was diet for the marked overweight, and arch supports. The x-rays of the skull, long bones and chest were all negative. The EEG was negative.

For the following five years, the child was seen at the clinic at four-month intervals and the case became one of educational and psychiatric treatment. She was guided through private school to the eighth grade at which time she was placed with our aid in a vocational high school. During these five years, the child has become progressively worse in relationship to her parents; she refuses all parental advice; she refuses to help her mother; she talks back. As soon as her father comes home, however, the child obeys as long as her mother is not present. As soon as the mother appears, she again becomes disobedient. There is constant friction between parents and child. The mother is a known cardiac whose condition is greatly aggravated by the child's behavior.

Because of this disturbed family situation, the case was referred to Social Service for evaluation and treatment. Dr. H. Michal-Smith, Chief Clinical Psychologist will give us the psychological evaluation.

DR. MICHAL-SMITH: In examination, Marlene was pleasant, friendly and cooperative. Yet, this surface adaptation could not hide the fact that she is actually an unhappy, lonely and inferior-feeling adolescent. Her nails were bitten down. Her facial ex-

pression was dull; unanimated; often depressed. She volunteered very little information, responded to inquiries in a minimal fashion.

The tests that were administered to the girl were the Wechsler-Bellevue Intelligence Scale for Children, the Rorschach, Thematic Apperception Test, House-Tree-Person Drawing Test, Draw Family Test, Most Unpleasant Concept Drawing Test and the Wide Range Achievement Test.

Intellectual Evaluation: Marlene attained a verbal IQ of 62, a performance IQ of 61 and a full scale of 58 on the Wechsler Intelligence Scale for Children. These ratings place her within the range of defective intellectual functioning. She showed wide scattered scores. She was better equipped to handle tasks which require concrete thinking and practical common sense reasoning than to cope with problems involving abstract concepts.

On four such tests which are closely related to overall intellectual functioning and specifically to reasoning and abstractibility, Marlene performs in the low defective range. Her visual-perceptability in combination with her grasp of everyday sterotyped information is about borderline caliber and seems to act as some compensation for her many deficits. While she does reveal some blocking and weak motivation of both verbal and motor performance tasks in general, ascribable to emotional difficulties, it is doubtful that her potential is beyond the defective range. Her level of concept formation in her drawing productions, in her Rorschach percepts and her TAT stories is consistent with the typical retarding picture.

Her present scores within the defective range are in keeping with her full Wechsler Intelligence Scale for Children of 61, attained in September of 1956, and her Stanford-Binet IQ of 53 in July of 1953, when she was first seen at our Clinic.

Academic Achievement: On the Wide Range Achievement Test, she received a reading grade of 3.5, a spelling grade of 3.0 and an arithmetic grade of 1.7, indicating low academic achievement in keeping with the intellectual expectations.

Personality: The picture is of a somewhat withdrawn, depressed and emotionally blocked, retarded girl with a great deal of latent hostility toward the home situation, anxiety about her future adult life, and lack of confidence in herself. To some extent she has learned to cover and to compensate for her deficits through a forced, compulsive kind of compliance.

Basically retarded, she has few inner resources for coping with her environment or meeting the demands placed upon her. Her thought processes are poor in quality with some tendency toward bogus productivity to compensate for perseverative tendencies, vagueness of perception, limited scope of interest and child-like dependent concepts.

In like manner, her emotional development is far below her chronological age expectations, and characterized by rigidity, crudely differentiated perception of feeling, high suggestibility, quick regression and unwholesomeness when subjected to stress. She necessarily lacks good judgment and cannot properly determine the world about her except in the simplest, most routine terms.

In regard to the dynamics underlying the blocking and depressive tendencies highlighted in her responses to the projective tests, there are signs of acutely felt rejection by the father and brother with considerable buildup of counter-hostility and fear of male figures outside of the home. Also, she seems to find the home situation exceedingly restrictive, imposing expectations of achievement far beyond her comprehension and abilities.

The total *diagnostic impression* was—mental retardation, unclassified; functional level, defective; potential somewhat higher but not beyond the defective range; excessively passive block, moderately depressed adolescent with compliant social veneer, showing much latent hostility toward the parental attitude.

DR. LEVBARG: Mr. Gondor will now discuss the drawings of this child.

MR. GONDOR: When the therapist invited Marlene into the playroom, she responded with mistrust and hostility. When she was assured that it was *not* a medical examination and was addressed as "Miss", her attitude changed and she came willingly into the playroom. She volunteered to draw a human figure, which was on the level of a six-year-old child. The therapist could assume that, throughout the years she was often requested to make figure drawings, she had in some way formed a pattern of sorts, which cannot be considered representative of her feelings or awareness of her environment. This was confirmed when she was requested to draw a dog. She drew a square, and put seven appendages on it in a very confused random fashion which represented the tail, ears, head and legs. She was quite upset, feeling frustrated that she could not respond to the request, and refused to make any other drawings.

The therapist explained her feelings—told her she was angry with him and suggested she draw how angry she was. She made a primitive drawing of the therapist being hit with a cane on his head. After this, she felt better and discussed her three wishes, saying she would like to have a dog, a car and a house.

In summary, this girl has achieved some sort of social adjustment and has set up a certain type of facade to cover up her helplessness, but she is a retarded child who has a poor concept formation and she will not be able to do any work which requires abstract thinking or planning.

DR. LEVBARG: The base achievement in this case depends on the two services which will now follow. The first is education presented by Mr. Snyder.

MR. SNYDER: Marlene was first seen by me when she concluded her sixth year in a parochial school in downtown New York. At that time she had been examined by the Bureau of Child Guidance and had been found to fall within the range of retardation. It was suggested to the parent, that the most suitable placement for her would be in a junior high school setting in a Child's Retarded Mental Development class. There was tremendous opposition to this by the father. According to him, Marlene was achieving and maintaining herself in the regular parochial set-up. He also felt that school placement in the neighborhood in which they lived, would have a negative effect since the child would be placed in a situation with children from a different culture. We were unsuccessful in our efforts to persuade him, and since the father's needs were that the child should be seen as a normal child within the community, we went along with it. At the conclusion of the eighth year, the child was given a diploma by the parochial school. The father now was very troubled because no high school would grant her admission on the basis of her grades with the exception of a few vocational high school annexes.

This time he asked for help. We took the matter to the Bureau's CRMD supervisor, who is responsible for CRMD classes in secondary schools and arrangements were made for Marlene to attend a vocational high school annex where children are classified as slow learners. In this particular school there is one special class; arrangements were made for Marlene to be placed in this class, but they never came to fruition because the registration period was hectic and because the child, at the time, was able to escape detection as being too deviate from the normal stream of

the population. For a time she managed very well in the regular stream of the vocational high school, since most of these children were slow learners.

Marlene ran into difficulty in vocational training because the shop that she was given as an orientation was not in consonance with what the father wanted nor in consonance with the child's fancy regarding the kind of work she wanted to do.

At the present time the school reports the following:

Marlene is doing approximately fifth grade arithmetic and reading, utilizing books and material from the fifth grade and has scored on the Metropolitan Achievement Test, 4.2 in reading and 3.1 in arithmetic. Ritualistic performance is apparent and facial mannerisms have begun to occur which make her the butt of other children in the school. Marlene now evinces discourteous behavior and uses profane language frequently. She is stubborn at times, but at other times makes an effort to cooperate. She is a youngster that requires constant supervision yet tries to lead, and when unsuccessful, will follow, but manages to instigate situations which cause other children to get into difficulty.

She is achieving a 65 per cent average in this school on a fifth grade level suggesting that she is able to handle academic work to a degree. She works to capacity, but the school reports that she shows the strain of great emotional pressure from the home environment. The parents have visited the school several times, and both gave the impression to the guidance worker of being overprotected, immature and very highstrung.

The educational diagnosis for this youngster, in spite of IQ ratings, is that this is a high level retardate with many capabilities academically, but one who has probably reached her maximum growth level of academic proficiency—about the fifth grade. Of course it suggests that the stress educationally for the child should be on vocational training in preparation for living.

The prognosis for this child, if the remediation of social defects takes place, is excellent. With a stabilized home environment, with a realistic approach to living, this girl can attain realistic goals. Goals for her vocationally are employment utilizing either the employment service of this particular vocational high school or the Guidance and Placement Service of the Bureau of Children with Retarded Mental Development. The type of work this youngster could do at this moment, we think, is in the area of light factory work or in hospital service. We place many girls in messenger positions in the hospital service or in department stores

as messengers. These are only a few illustrations of what is open for Marlene vocationally.

We feel that guidance for this child should include plans for the eventual marriage of this youngster with a slow learner so that she will find a place in the community.

DR. LEVBARG: After receiving the reports from the educational department and the medical department, it was felt that this child and her family should both be placed under psychiatric care. Dr. Joseph Siegel will discuss the family and Mrs. Ladimer will discuss the child who is under therapy.

MRS. LADIMER: Marlene is a girl who at first did not appear at all retarded if you see her in the waiting-room. She is neatly dressed, takes full charge of her own clothing and is fairly attractive. She answers fairly adequately although she is not very articulate.

During the first session Marlene responded very well to a discussion on the problems facing her at present as she sees them. I would like to point out that this is an adolescent girl, even though retarded, and that many of her problems stem from the adolescence compounded by the retardation.

She realizes that her difference from other girls is much greater than it was five years ago and this worries her. She would like to have the independence that other girls have at age seventeen. She is restricted, both because she is retarded and because of a specific family situation, and this is part of her problem which has resulted in sudden rebelliousness within the last couple of years.

Another main problem is the high expectations which Marlene and both parents have for her. There is an unrealistic appraisal of her ability and never has she been taught to think of anything other than perhaps clerical work for her future.

The specific problems that Marlene herself saw were: the part that she had in responsibilities at home; because this has been a source of conflict with the mother, she feels a need for assuming more independence about these responsibilities. The problems in home living which involve her lack of privacy, and the fact that she must share a room either with the brother or with the mother.

Her lack of friends and her worries regarding a choice of a vocational plan, of some kind of training other than what she is getting now in the vocational school.

She shows a great deal of feeling about the whole family situation, which now involves a grandmother who lives across the

court, and her rebelliousness, her hostility and her real aggression with a great many "I could kill them," referring to her mother, her father, her grandmother, her brother and various other people.

Marlene's problems which must be faced are as follows. The problems of the vocational aspiration of the parents and of the child are not realistic and will require development of insight toward the child's limitations.

Furthermore, Marlene is concious of the need for privacy, for independence and for some acceptance by the family.

In summary, Marlene is accepting the therapy situation. She is very conscious of her need for independence, and of her satisfaction in having some independence in this particular situation where she does not need to report what happens to the family. We recommend that the therapy sessions be continued.

MR. KELMAN, Chief Social Worker, Mental Retardation Clinic:

On first contact, Marlene's father complained that the girl was disobedient and uncooperative. He noted that he had always been strict with her and that she obeyed him. He realized, however, that she obeyed him only because of fear and this troubled him. He noted that if his wife was present, Marlene would not obey him. He felt that Mrs. G. spoiled the girl and made too much allowance for Marlene because Marlene was retarded. Since the mother has heart disease the father stressed the need for clarifying the home problem. It has been ascertained recently from Mrs. G's doctor that the heart condition is probably on a functional basis, but it is felt to be a result of her internal tension and her emotional distress.

Altogether the father was very dissatisfied with Marlene and his anger and frustration were obvious. He seemed to be a commanding, not too understanding, rigid and basically insecure man.

In May 1957 Mrs. G was seen. She is an integrated, pleasant looking woman. She did not look ill and stated that she was feeling better. Incidentally, she has been working on and off for some years.

The concern which Mr. and Mrs. G feel for Marlene seems to have increased recently as Marlene approaches adulthood. Mrs. G admitted she has always been rather lenient with Marlene, feeling this was necessary in view of the girl's retardation. She noted that the girl's lack of cooperation does aggravate her, also, that the girl prefers to spend much time away from home.

Mrs. G noted that until recently her husband did not accept Marlene's retardation. He regarded her as lazy and treated her accordingly. This man literally would not accept the fact that she was retarded though everyone told him so, and although there were many reports to this effect. There is no doubt that the girl has been subjected to a good deal of pressure by the father and it reflected itself in some of the psychological reports which were mentioned.

In November 1957, Mrs. G expressed great concern for Marlene's future. She wondered if she could work in the community after graduation from school in June 1958. She herself doubted this and asked if the girl could receive additional special education.

She noted that Marlene tended to be selfish and prepared food for herself but not for other members of the family.

She also wished the girl to join a group of retardates as social life in her own community was decreasing for the girl as she grew older. Mrs. G agreed to consult the AHRC in regard to a social group and also to discuss sexual and marriage questions.

As to the social group, the people there advised against Marlene joining a social group which they did have for adolescents because they felt the girl's appearance and integration were on a much higher level, and that it might be more harmful than useful for the girl to join the group.

Mr. G. was seen on several other occasions; he is becoming more relaxed.

Mr. G. noted that recently he has stopped forcing, pressuring and striking the girl. It should be pointed out that in the past his technique of correction would be almost always to strike her, if the girl was obstreperous or rebellious to the mother.

Another interesting fact, which I found out yesterday, is that he is a Scout Leader.

He is much closer to his wife than to his children. He is really more dependent on her and closer to her than he realizes and how she manages affects him very deeply.

He admitted that the only reason he accepted Marlene's retardation was because this pleased his wife, but there is still a question in his mind. This is what makes dealing with this case extremely hard as far as the father is concerned. The mother I think, would also upgrade the girl above her actual potentialities, but in its basic sense she has accepted that retardation exists, which the father finds extremely difficult to do.

He noted that the girl is interested in boys, but he also fears

that she may be seduced. She has been prohibited from meeting with the local group of adolescent boys. This made her very angry at times. Recently, she told her father she understood his viewpoint, when she became aware that one of her friends was pregnant.

Mr. G noted that he was raised in a very stern way, and he still approves of this approach. Mr. G, thus far, seems intellectually average, punitive, rigid, commanding and basically an insecure, immature man. He does not seem to be psychotic, and he is able to relate.

In brief, we have two parents, both of whom are emotionally troubled. The parents are troubled in a realistic situation, have been handling it in ways which have been ineffectual and have brought considerable pressure to bear on Marlene.

DR. LEVBARG: In summary, this is the case of a seventeen year old child with a diagnosis of mental retardation, with secondary reaction neurosis, in which the therapy is divided now into special education and psychiatric treatment for both parents and child. It is our hope that with therapy and education, the child will eventually take her place in society, maintaining a job on a lower level in any position which will not require too much abstract thinking.

DR. SIEGEL: We have just begun our work in terms of treatment of the family. I have planned to see both parents, more or less on a guidance therapy basis. It is obvious that treatment here is not going to be easy.

DR. SCANLAN: Are there any more questions or comments?

MR. SNYDER: I would like to make this comment. It is my full belief that if this child had been placed in a special class situation sooner, in spite of the resistance of the parents, there would have been a more realistic approach, vocationally, on the part of the child. I think we could have achieved much more vocationally than the possibility that exists at the moment.

I would also like to mention one other thing. The culture from which the child stems is a constricting one in a sense, and the bold offering that a possibility of marriage exists comes from empirical judgment with regard to children similar to Marlene from the same constricting culture where complete participation means the status of marriage.

DR. SCANLAN: Mrs. Ladimer would like to add to her remarks about Marlene.

MRS. LADIMER: I would like to make one point, that is, that we thought we would have a problem, at the time that therapy was considered, as to how well she would articulate some of her problems and how much she would be able to verbalize.

She participated verbally from the very beginning, once she realized that nobody would receive a report, and since she felt at ease with me, she talked. At one session, there was one fifteen minute period during which I said not a word . . . she just sat and spoke freely. I believe this is rather significant for a girl with her functioning, in view of what has been said about therapy for retarded girls, particularly adolescents who have such pent-up feelings.

DR. SCANLAN: Has Marlene made any reference to her intellectual functioning? Do you feel she really appreciates that she is retarded?

MRS. LADIMER: I think she is aware of it. I believe she has insight but that she would prefer to ignore it, as the parents would wish her to do.

QUERY: Did I understand you to say that she had been known to you for five years?

DR. SCANLAN: The first contact was in 1953.

QUERY: Why then was the discussion with parents and child deferred. I understand there were six sessions with the parents and four with the youngster.

DR. LEVBARG: We do not put children into institutions in this Clinic. We do not send parents nor children to psychiatric care until they are ready to accept it. We have had very poor results with anything that is forced on both children or parents.

DR. SCANLAN: Her behavior in different situations seems quite different. I do not know whether she shows any of this clinically.

MRS. LADIMER: I think you can see it in her response on different topics. And, in discussing her grandmother, and the effect of the grandmother's behavior on the entire family, her behavior was really aggressive. However, at other times when she talks about going to buy a dress, she is much more normal.

DR. SIEGEL: The father states that recently, and in the past too, the girl has been profane or has cursed members of the family, and that she is prone to be more emotional; as regards her brother, she can be definitely profane in the home.

DR. SCANLAN: As Mrs. Ladimer has just pointed out this is not untypical of adolescents without retardation or without any of the special problems of this child.

QUERY: In the working of a clinic, and with various members of the team, what means of communication do you use between the psychologist and the psychiatrist? Do you have regular conferences or are there just conferences two by two?

DR. SCANLAN: We have all kinds of conferences. We have a weekly formal conference where everyone in the Clinic participates, where there is a formal presentation such as you have seen today, but there are many other kinds of conferences; two by two or conferences involving three disciplines. We certainly do not rely only on written communication by any means.

QUERY: There is some discrepancy in regard to this child. The parents were told that she should not join the group for the retarded children for social life. At the same time, she is not accepted by the normal group, therefore, where does she belong?

DR. SCANLAN: Well, I think we should look for some other group of retarded children who are closer to her in terms of social behavior and social adjustment and potentialities. There are various groups. I don't know how many, and I should think that one could look further for such groups. Have you any thought as regard to the sort of social group in which she might function?

MRS. LADIMER: Well, I do not know of any off-hand, but one of the problems is that the family has some very rigid, middle-class values for this girl which put her at a disadvantage. She cannot be with the kind of children who also come from the same type of families, that is normal children, at the same time she is not quite the retarded child that goes to some of the AHRC groups.

Now, if she could find a group there that would be more congenial, but this would be difficult. Perhaps Mr. Kelman could give us some ideas on the subject.

QUESTION: You mention that she looks different from the other mentally retarded girls.

MRS. LADIMER: She does not look like a superior, bright child, but she looks fairly normal in the waiting room. This is nothing outstanding about her that marks her as being retarded.

MR. KELMAN: One or two points. With regard to the social groups that are now in existence sponsored by the AHRC, most of these groups are for young people who still persist in going with children, who are pretty obviously atypical or different, that is, they stand out either because of physical stigma or because of obvious retarded functioning. One has the impression that in so far as this girl is concerned this is not true.

From experience with some of these groups we know that, to back up what Dr. Siegel has said, such an experience can at times be more harmful to the retarded individual than it might be beneficial.

I think this girl is representative of a group of retarded individuals who really belong, if I can put it that way, within the purview of community agency programs. That is to say, this is probably a girl who can partake, with some supervision, in a regular program, social program, in a community center of some kind. One of the problems that we have is to find ways of opening up these resources in communities that do have ongoing community programs.

Some of you remember that in a pre-institute session I had mentioned the fact that we have recently added to our staff a social group worker. One of the functions we believe in which this group worker can help or assist us is in opening up some of these potential facilities that are available to all children and to try to assist the agency in planning a meaningful program for this child. We do not have the impression that much modification would be required to fit this child into a socially acceptable—that is in terms of the parents and the community—community program of that type. The existing social groups that are available would not be appropriate for her.

DR. SCANLAN: Are there any other questions or comments?

QUERY: This is rather in the academic realm, but projecting this into the future, say this girl does marry and has a family, and the stresses and strains go to a degree that she cannot handle, then the community comes in with a social agency program and we say to ourselves, why couldn't we have prevented this? This girl was under care of counselling. Could we have prevented this present situation?

Is there a gap from the point where she goes out into the world and the time she faces the stresses and strains that we could give some kind of support to the services? I do not mean to take any freedom from her. She has a right to function in a democratic society, but is there some way to give her supporting services so that we do not have a continuous repetition of this problem in the community which she will face later?

MR. SNYDER: Part of the community, of course, is relationships one has within the family. And, the guidance and counselling the parents get from a service such as this can make them the part of the community that is the protection for the child who needs it, from cradle to grave.

The denial of the sex drive, we cannot possibly countenance nor can we deny the drive for belonging and having loved ones of one's own. This is a girl who is able now to shop at seventeen and buy a dress on her own. This is a girl who is able to carry a part-time job, successfully or not is unimportant. This is a girl who is able to manage her affairs in a school situation among people who are significantly higher intellectually. This is a girl who could function much higher if the parents were not an interfering force.

Remediate the interfering force and channel their drives towards protection and we have a good chance of success with the girl without running into great difficulty.

DR. SCANLAN: It seems that this girl's capacity for relating in therapy is considerably better and it seems to me that any time in her life when she might need help, she could benefit from familiar forms of therapy.

MR. SNYDER: We are not sure really, even though this child functions at a retarded level, what her true functioning level is as a participant in the community. Certainly her IQ score denies what she is able to do. This girl can do much more than is suggested by her score on a clinical instrument. I don't think we have the instruments at this moment, other than observation, to determine what she can do.

In the one case custodial care may be indicated and it would seem that this would only come about when the parents recognize the fact that they can no longer care for the child. But, here is a girl who, I think, can make it on her own, given the proper care and guidance—and having the energies of the parents re-

verted, if you will, in the direction of positive interest towards the child.

Dr. Scanlan: The information that we have about this adolescent girl certainly suggests that her future may be quite different than the future of the first child presented.

I want to thank everyone who has particapted in the presentation of this case and I hope that you found it not only interesting but that it has also concretized some of the material that you have obtained.

Congenital Absence of Hemidiaphragm and Use of a Lobe of Liver in Its Surgical Correction. (A.M.A. Arch. Surg., 69:282-290, Sept. 1954). Operations for congenital defects of the diaphragm should be performed promptly in the newborn infant before there is danger of death from respiratory and circulatory embarrassment or intestinal obstruction. The mortality rate from such procedures has been enormously lowered within recent years. Two cases are reported of congenital absence of a hemidiaphragm in which a lobe of the liver was sutured to the endothoracic fascia in order to separate the abdominal and pleural cavities. Surgical intervention was performed 48 and 24 hours, respectively, after delivery of the infants. The first child was living and well 18 months after operation. The second, who was born after seven and a half months' gestation, died from cardiac arrest at the conclusion of the operation. Subsequently, experimental investigations of the operative procedure were carried out in 16 dogs, 12 of which lived and were healthy. It was found that, although two dogs died from rupture of the suture line after gastric dilatation, substantial pressure was required for rupture. Measures can be taken postoperatively to avert gastric or intestinal postoperative distention. Thoraco-abdominal incisions provided good approaches to the operative fields. Bleeding from the liver was not a problem. Once healing is accomplished there is apparently no tendency to diaphragmatic herniation.—*J.A.M.A.*

DEPARTMENT OF ABSTRACTS

by

MICHAEL A. BRESCIA, M.D., NEW YORK

SMIT, Z. M.; PRETORIUS, P. J.; MEIJ, H. S.; VENTER, E. E. and HAUMANN, J. E.: SOME BIOCHEMICAL CHANGES IN KWASHIORKOR. (South African Journal of Laboratory and Clinical Medicine, 3:142, June 1957).

The changes in the total serum proteins, protein fractions, amylase, cholesterol, ascorbic acid and carotene of fifty-eight patients suffering from kwashiorkor were studied. They received skimmed-milk formulae without additional vitamins for a period of 3-4 weeks. The initial low levels of serum proteins, amylase and cholesterol increased during this period to "normal" levels in the same manner as reported by other workers. The normal ascorbic acid and low carotene levels remained more or less stationary during this period. The urine of eleven patients was collected and examined soon after admission. Oliguria and low creatinine excretion values were usually found. The excretion of urinary thiamine, riboflavin and Ni-methyl-nicotinamide were determined in some instances. AUTHORS' SUMMARY

NAFICY, A. T.; LAURENCE-MOON-BIEDL SYNDROME. REPORT OF TWO CASES IN BROTHERS. (Acta Medica Iranica, 1:149, Jan. 1957).

Two cases of Laurence-Moon-Biedl syndrome are described in two brothers. They demonstrated five out of the six cardinal symtoms of this syndrome, i.e. obesity, genital dystrophy, retinitis pigmentosa, mental deficiency and familial occurrence. In addition their only sister has ocular signs of beginning retinitis pigmentosa and one relative has polydactylism, and another is a cretin. What is unusual in these cases is the coexistence of rotatory nystagmus and a peculiar dark discoloration of the axillary, inguinal and public regions resembling acanthosis nigricans. This might be further proof as believed by some observers that the disturbance of this syndrome is due to disease of the hypophysis or hypothal amus.

M.A.B.

PARRISH, H. M.: MORTALITY FROM SNAKEBITES, UNITED STATES, 1950-1954. (Public Health Reports, 72:1027, Nov. 1957).

An analysis of seventy-one deaths from poisonous snakebites in the United States during the period 1950-1954 found the highest death rates in Arizona, Florida, Georgia, Texas and Alabama. The most frequent victims were under 15 or over 50 years of age. Most of the victims were workingmen occupied out of doors or children playing around their residence. Rattlesnake species inflicted at least 77 per cent of the fatalities, 90 per cent of those for which species was identified. The bites were predominantly on the extremities: 52 per cent on the lower and 37 per cent on the upper. The most important factor in the failure of these patients to survive was the interval between the time of the bite and the time of medical treatment. Other important factors were the large number of rattlesnake bites, the age and weight of the victims, and the nature and location of the wounds. Early and vigorous treatment of all severe cases of snake venom poisoning is recommended. AUTHOR'S SUMMARY

FISCHER, H. W.; LUCIDO, J. L. and LYNXWILER, C. P.: LOBAR EMPHYSEMA. (Journal American Medical Association, 166:340, Jan. 25, 1958).

Lobar emphysema in the newborn or very young infant is a little-known respiratory disorder, characterized by dyspnoea and cyanosis. Although uncommon in occurrence, its recognition is of importance, since failure to make an early, accurate diagnosis and to institute proper treatment may result in death. Since the physical findings are often misleading, the diagnosis is dependent on the roentgenologic findings of a pronouncedly radiolucent lobe area, still containing lung markings. Other lung tissue may be compressed or collapsed. The ipsilateral leaf of the diaphragm is depressed, and the mediastinal contents are shifted away from the radiolucent area. The less radiolucent hemithorax shows more normal respiratory dynamics on fluoroscopic examination. Bronchoscopy and tracheobronchial aspiration exclude an intrabronchial foreign body or other luminal obstruction as the cause of symptoms. Only rarely is the course of the emphysema benign enough to allow continued conservative therapy and observation when typical roentgenographic findings are present. In thirty-one of thirty-six cases reported in the literature, there has been no further related respiratory difficulty after lobectomy.

AUTHORS' SUMMARY

APPLEBAUM, E. and ABLER, C.: TREATMENT OF TUBERCULOUS MENINGITIS WITH A COMBINATION OF ISONICOTINIC ACID HYDRAZIDES, STREPTOMYCIN AND PARA-AMINOSALICYLIC ACID. (Annals of Internal Medicine, 47:782, Oct. 1957).

Forty-one patients with tuberculous meningitis were treated with a combination of isonicotinic acid hydrazides and streptomycin, and in many instances with para-aminosalicylic acid as well. The diagnosis was confirmed bacteriologically in the thirty-six cases by finding acid-fast bacilli in the spinal fluid on smear, by recovering M. tuberculosis from the spinal fluid culture, or by both procedures. In one case in relapse, the organisms had been isolated during the original attack. In another, tubercle bacilli were found by gastric lavage. Two cases were confirmed by the presence of miliary tuberculosis, and one case at necropsy. Roentgenologic evidence of pulmonary tuberculosis was found in twenty-seven patients. In most instances the dose of the hydrazides was 10 mg./Kgm. of body weight, of the streptomycin 1 gm., and of the PAS 6 gm. to 12 gm./day. Of the forty-one patients, twenty-nine recovered and twelve died. The survivors have been observed for periods ranging from 4 months to 4½ years, and at present most of them are in good general physical condition and have normal mentality. In this series there were relatively few toxic reactions, particularly as a result of the hydrazide therapy. Serious neurologic residue were encountered in only four cases. Relapse occurred in two patients who responded satisfactorily to treatment with combined medication. Several important problems, particularly those pertaining to the choice of regimen, duration of treatment and prevention of sequelae, require further investigation.

AUTHORS' SUMMARY

ALVEY, C.; ANDERSON, C. M. and FREEMAN, M.: WHEAT GLUTEN AND COELIAC DISEASE. (Archives Disease in Childhood, 32:434, Oct. 1957).

No evidence of an allergic reaction to wheat gluten can be demonstrated in patients with coeliac disease. Gluten exerts a harmful effect in these patients whether given as a whole protein or an predigested peptide. After a dose of gluten, blood glutamine rises to a higher level in coeliac patients than in normal children. The concept that the toxic effect of gluten is due to a peptide containing glutamine is discussed and a specific intracellular enzyme deficiency postulated.

AUTHORS' SUMMARY

MORLEY, A. J. M.: KNOCK-KNEE IN CHILDREN. (British Medical Journal, 5051:976, Oct. 26, 1957).

Knock-knee is commonest among children aged 3 to 3½ years. At this age 22 per cent of children were found to have a knock-knee of 2 inches (5 cm.) or more. Only 1 per cent to 2 per cent of children aged 7 years and over have an equivalent amount of knock-knee. The mean weight of children with knock-knee is greater than the mean weight of comparable children without knock-knee. The development of knock-knee is not associated with any of the following factors: valgus feet; flatfoot; age at which the child started to walk; duration of breast feeding; quantity of vitamin supplements taken during the first 18 months; illness as judged by the number of days spent in bed. Knock-knee is very common among toddlers, but fortunately it usually improves without treatment. Apart from operative procedures, no effective treatment for knock-knee is known. Knock-knee in children under 7 years of age can probably be safely ignored unless it is excessive or unless an underlying cause, such as epiphysial damage from a fracture or renal rickets is present. An underlying cause for the knock-knee should be sought: (1) the knock-knee is excessive—over 3½ inches (9 cm.); (2) the knock-knee is of unequal amounts in the two legs; (3) the child is short for its age: this might rarely be due to an epiphysial dysplasia or to an endocrine disorder; (4) there is a family history of severe knock-knee or other bony deformity; this could be due to a metabolic disorder such as Fanconi's syndrome. Toddler's knock-knee can be allowed to join the growing group of development deviations which seldom need treatment, such as the infant's tight foreskin and the baby's unbilical hernia.

AUTHORS' SUMMARY

GARAU, A. and PRUNA, T.: STUDY OF HEART ABNORMALITIES IN MONGOLISM. (Annali Italiani di Pediatria, 10:464, Oct. 1957).

The authors investigated the cardiac function in sixty children of both sexes affected by mongolism. Twelve of the sixty had congenital anomalies of the heart, eleven of them being interventricular septal defects and the other being pulmonary stenosis. Among the remaining forty-eight, 26 per cent had other defects of the cardio-vascular apparatus such as enlargement of the heart, arrythmia and hypotension. In fifteen cases that showed no clinical cardiac abnormality, the electrocardiogram revealed defects in the process of depolarization.

M.A.B.

COLONNA, P. C.: CARE OF THE INFANT WITH CONGENITAL SUBLUXATION OF THE HIP. (Journal American Medical Association, 166:715, Feb. 15, 1958).

Early recognition of the signs that are characteristic of dysplasia is important. Subluxations and dislocations can and should be differentiated and diagnosed, in most instances, by their clinical features and roentgenograms should be made within the first three to six months of the infant's life. The general practitioner and the pediatrician should be alert to the characteristic signs. Early recognition accompanied by early treatment with abduction support will enable the physician to assure the parents a very high percentage of normal functioning hips in the subluxations but a much lower percentage in the frank luxations. In our small series of subluxations we have had 91.7% excellent results. Operative treatment is practically never indicated in the child under one year of age. The results are so splendid with abduction braces which permit replacement of the displaced head and retain it in its proper position that early infancy can be regarded as the "golden age" for the restoration of normal function and restoration of anatomic configuration. By a single anteroposterior roentgenogram, the position and progress of the hip can be determined.

AUTHOR'S SUMMARY

LUTIER, F. AND DALBEUF, R.: AN ATTEMPT AT TREATMENT WITH POLYMIXINE IN INFANTILE GASTRO-ENTERITIS DUE TO ESCHERICHIA COLI AND RESISTANT TO ANY OTHER ANTIBIOTIC. (Presse Médicale, 65:1905, Nov. 23, 1957).

During an epidemic of gastro-enteritis due to coli-bacillus pathogenic 111:B4, the authors found the organism resistant to therapy with the usual antibiotics. This was confirmed with sensitivity tests. They had therapeutic failures with some fatal results. Polymixine, the only active antibiotic, was used parenterally in the severe cases, but most often it was used orally. The use of this drug was successful in the majority of the cases. The drug must be used with care in cases with nephritic deficiency. The authors did not observe any kidney complications in their cases. After eight to ten days of treatment, the stool cultures became negative eight to fifteen days following the onset of treatment. The use of polymixine has eliminated the germ carriers who are responsible for the spread of the epidemic. The authors advise sensitivity tests because of the variability of response of the organisms to any specific antibiotic. M.A.B.

GRANT, W. W.: OBSERVATIONS ON SLEEP DISTURBANCES IN PRE-SCHOOL CHILDREN. (Canadian Medical Association Journal, 77:444, Sept. 1. 1957).

Sleep disturbance in the pre-school child is common but is likely always related to, and secondary to, current physical, emotional, or environmental problems. The major factors involved appear to change with increasing physical and mental growth of the child. If the sleep disturbance is severe, the child will often show other behavior difficulties for which he may be brought to the doctor, to whom the sleep disturbance is not mentioned. If the physician bears in mind how much such disturbance can produce distress and fatigue in parents, he is more likely to inquire about sleeping problems in young children and attempt to deal with them. The principle of "self demand" cannot be successfully applied in relation to bedtime and other sleep practices in young children. When presented with a sleeping problem in a young child, the physician is well advised to pay attention to such emotional and environmental factors as separation anxiety, rigidity of habit training, increasing awareness of sex differences, and domestic disharmony and fear of family break-up. Although sedative drugs are helpful, they should be used only as a temporary expedient while the total situation is being explored and adjusted as far as possible. Like any other behavior of children which is unacceptable to the parent, sleep disturbance will not disappear if it is "rewarded" in positive fashion by excessive attention, or in negative fashion by punishment.

AUTHOR'S SUMMARY

STROUD, G. M.; BRODELL, H. L.; LASCHEID, W. P. and POTTS, L. W.: CUTANEOUS ERUPTIONS AFTER USE OF SALK POLIOMYELITIS VACCINE. (Journal American Medical Association, 166:251, Jan. 18, 1958).

In spite of the mass vaccination of children and adults against poliomyelitis, the incidence of cutaneous eruptions is extremely low. Twelve patients with common dermatoses which occurred after the injection of Salk poliomyelitis vaccine have been observed. Three types of eruptions were seen—urticarial, eczematous, and psoriasiform. None of these reactions were serious. Most penicillin reactors and individuals with eczema and psoriasis have been vaccinated against poliomyelitis without difficulty.

AUTHORS' SUMMARY

ANASTASIADES, A. A.; TSIKOUDAS, E. C.; LINCOLN, E. M. and DALY, J. F.: TUBERCULOSIS OF THE SUPERFICIAL LYMPH NODES IN CHILDREN. (American Review of Tuberculosis and Pulmonary Diseases, 76:588, Oct. 1957).

A review has been presented of the history, pathogenesis, pathology, diagnosis and treatment of tuberculous lymphadenitis. A report is made of the treatment of twenty-nine patients, from 8 months to 11 years of age, with tuberculous fluctuant nodes and sinuses, and of three patients with suppurative nontuberculous adenitis. All of these patients with lymph node disease were treated by wide incision, irrigation, and packing with streptococcal enzyme (streptokinase-streptodornase). With this treatment, 67 per cent of the uncomplicated nodes and 55 per cent of the nodes involved with sinus formation healed completley within a month. Of seven cases of tuberculous nodes, three were exercised because of poor response to enzyme therapy, and four because they were not suitable for such treatment. AUTHORS' SUMMARY

FORTINA, A.; FURNO, M. AND MONGILARDI, G. M.: STUDY OF THE ELECTROPHORETIC PATTERNS DURING INFECTIOUS DISEASE. (Aggiornamenti sulle Malattie da Infezione, 3:215, July-August 1957).

In a study of the electrophoretic patterns of the blood proteins during various infectious diseases, the authors report the following findings. In nine cases of bronchopneumonia with slow resolution, there was slight hypoalbuminemia with slight but constant increase in alpha globulin one and two. In one case of erysipelas there was a modest but persistent decrease in albumin with elevation of gamma globulin. Five cases of epidemic parotitis gave a normal pattern. Eight cases of gastro-enteritis showed a hypoalbuminemia with a hypergammaglobulinemia. Ten cases of diphtheria showed modest hypoalbuminemia with a slight increase initially of gamma globulin. Six cases of measles showed hypergammaglobulinemia. Seven cases of scarlet fever showed an increase in alpha globulin and, after twenty days, showed an increase in gamma globulin. Six cases of acute anterior poliomyelitis showed initially a marked increase in gamma globulin. Five cases of acute hepatitis showed hypoalbuminemia, hypergammaglobulinemia with slight increase in beta globulin. Ten cases of acute rheumatic fever with endocarditis showed hypoalbuminemia with increases in alpha and gamma globulins. Six cases of acute glomerulonephritis showed increase in albumin and gamma globulin. M.A.B.

SHIVPURI, D. N. and BAN, B.: TUBERCULOUS HILAR AND MEDIASTINAL ADENITIS. COURSE, PROGNOSIS AND AMBULATORY CHEMOTHERAPY. (American Review of Tuberculosis and Pulmonary Diseases, *76*:799, Nov. 1957).

Two hundred and eighty-seven cases of hilar and mediastinal adenitis due to tuberculosis were studied over a 30 month period in Old Delhi, India. The incidence in females was 2.3 times that of the males, and the maximal incidence occurred at a later age (10 to 20 years) among females than among males (3 to 10 years). A positive tuberculin reaction was obtained in 100 per cent of the patients tested. Tubercle bacilli were demonstrated in 23 per cent and a history of contact with active tuberculosis was obtained in 33 per cent of the patients. Associated tuberculous lesions were present in about 75 per cent of females and 60 per cent of males. Such complications as pleural effusion or parenchymal lesions were more common in females, while cervical and axillary adenitis predominated in the males. Atelectasis (segmental or lobar) was detected in 9 per cent of the patients and was most common in the right upper lobe. One hundred and thirty-seven patients (47 per cent) were followed for a period of 3 months to 5 years (average, 14 months). One-third of these received no chemotherapy; the remainder received chemotherapy for varying periods ranging from 4 to 32 weeks. Marked or moderate enlargement of the mediastinal lymph nodes was present in about 8 per cent of both treated and untreated groups, but significant improvement was noted in only 8.6 per cent of the untreated group as opposed to 41.2 per cent of the ambulatory chemotherapy group. Ambulatory chemotherapy proved to be practical in this situation. The value of prolonged antituberculous chemotherapy was stressed by the finding that improvement became more marked, while unsatisfactory results became less frequent, the longer chemotherapy was continued. Chemotherapy for at least one year would seem to be indicated for all cases of tuberculous hilar and mediastinal adenitis.

AUTHORS' SUMMARY

BOOK REVIEWS

by

MICHAEL A. BRESCIA, M.D., NEW YORK

STRABISMUS OPHTHALMIC SYMPOSIUM II. Edited by James H. Allen, M.D. Cloth. Pp. 552. Illustrated. Price $16.00. St. Louis, Mo.: The C. V. Mosby Co., 1958.

This significant text, which encompasses a symposium of the opinions and studies of leaders in the field of ophthalmology and specifically strabismus, is a noteworthy contribution. Medicine is an art as well as a science but not until recently have we seen art giving way to science in the treatment of strabismus. Although many giant steps have been taken and major problems resolved, the closing chapters in research appear a long distance off and current findings will become obsolete.

Embryology is given its rightful pedestal by Dr. W. Fink in his opening chapter. His prime point depicts that the normal extrinsic muscle represents the complete maturation of the developing mesoderm. Variations occur because of failure of differentiation. Dr. H. Brown contributes a section on surgery of the oblique muscle, demonstrating the importance of a firm foundation in anatomy. Dr. K. Swan's chapter stresses the terminology and new concepts of binocular vision. To understand the abnormal condition of strabismus we must fully comprehend the normal mechanism. The voluntary and involuntary mechanism of the eye movements are discussed by Dr. F. Adler. A unique concept of the etiology of the heterophoria and the heterotropia candidly admitting the theoretical basis but emphasizing its practical importance is treated by Dr. H. Burian. The debated use of prisms and their application is condensed by Dr. G. Guibor. He concludes with a chapter on the practical uses of atropine which ophthalmologists will find illuminating. Dr. F. Costenbader discusses in an exceptionally orderly fashion the nonsurgical management of the strabismic patient and especially the surgical aspects of the esotropia. The neglect of the divergent situation is pointed out by Dr. P. Knapp. The value of orthoptics, in the treatment of convergence insufficiency and its limitations in divergent excess, is made

vividly clear with striking simplicity. The text closes with a section by the late Dr. Walter Lancaster, who timely (although posthumously) emphasizes that if the subject of strabismus is to become a science, we must agree upon a consistent terminology. This present day father of opthalmology points out that the value for either esophoria or exophoria means little without measuring the vergences including its fusional aptitude and recovery point. In conclusion credit must go to Dr. James Allen for accomplishing an outstanding task in editing the academic subject material which represents the varied viewpoints of authorities who have resolved prior differences through more careful use of standard nomenclature.

ERNEST CARL PRESTO, M.D.

CHRONIC ILLNESS IN A LARGE CITY. Vol. IV. The Baltimore Study Commission on Chronic Illness, June 1949 - June 1956. Cloth. Price $8.00. Cambridge, Mass.: Harvard University Press for the Commonwealth Fund, 1957.

This is the fourth volume in a series on chronic illness. Two interesting approaches were used as a medium for evaluating the screening tests that were performed in an evaluation clinic. The first was the patient's idea of the disabling effect of his condition; the second was the physician's recorded judgment as to the disabling effect of their chronic condition. The attitudes toward health were quite revealing as the deciding factors in maintaining chronic conditions. Of the negative attitudes which keep patients ill for a long time, fear and ignorance predominate. Many of these patients never regain optimum good health. Environment was considered as a causative factor. Many patients are sensitive to a hospital and feel apprehension when they visit a clinic. Nurses and physicans often guide the misinterpretations of patients. It is in the mental approach that the extent of a doctor's guidance and preparation of the patient toward his illness, as well as the understanding of nurses, which make patients hostile and develop negative attitudes toward seeking further help for their health. Multiphasic screening tests remain as the most practical procedure and best source of case finding. The book has excellent statistical tables that can be used to further research projects and health programs. It is designed for public health personnel, students of medicine and research, and administrators of health programs. The book is not easily read; it is a special study that will be valuable to any group or individual contemplating special projects and for reference.

ELSIE MECHTA, R.N.

General Diagnosis and Therapy of Skin Diseases. By Hermann Werner Siemens, M.D. Translated from German by Kurt Wiener, M.D. Cloth. Pp. 324. Illustrated. Price $10.00. Chicago, Ill.: University of Chicago Press, 1958.

This is the first edition of an unusual text—a personal work that does not follow the usual format. It consists essentially of two parts, the first, "General Diagnosis of Skin Diseases," and the second, "General Principles of Therapy."

In the former, as in most dermatologic works, the basic lesions are discussed. However, they are presented beautifully and minutely. Never has this reviewer seen a subject treated in such detail with 25 wonderful illustrations in color; 191 exceptionally clear, sharp photographs of exquisite craftsmanship on lesions. Much credit is due the author's photographer, Mr. J. J. van der Waller.

This is not a book to be skimmed through lightly. Every line warrants study; every paragraph brims with information. It is hard to find a wasted word.

The second half of this book pales in comparison to the first. It includes many statements which would be disputed by dermatologists in this country. Much more emphasis should be placed on the "sometimes" and less on "specifically."

This book will not appeal to all. Those merely interested in looking up a disease and to find a corresponding list of treatments will be disappointed. It is recommended for anyone seriously interested in the fundamentals of dermatology.

A. H. Gladstein, M.D.

Handbook of Poisons. By Robert H. Dreisbach, M.D., Ph.D. Paper. Pp. 426. Illustrated. Price $3.00. Los Altos, Calif.: Lange Medical Publications, 1955.

This is the type of book one likes to have within easy reach. A wealth of material about poisons, their symptoms and treatment is contained in this small compact volume. The author included practically all the poisons that come within reach of the human either by accident or suicide. He considers, in separate sections, pesticides, industrial hazards, household chemicals, medicinal poisons and plant and animal hazards. Although the print is small, it is nevertheless quite readable. This book is one you should add to your library and possibly might be carried in the bag or in the glove compartment of your car. M.A.B.

CHEMICAL ANTHROPOLOGY. A New Approach to Growth in Children. By Icie G. Macy and Harriet J. Kelly. Cloth. Pp. 149. Price $3.75. Chicago, Ill.: The University of Chicago Press, 1957.

This is the type of technical book that one wants to read during leisure moments, or on vacation, to sort of plough into something different. The book does not seem to have any immediate clinical practicality. Nonetheless, it contains interesting figures on the changes in chemical and water composition of the body as affected by growth. Most of the statistics and figures relate to the age groups from 4 years to 12 years. One oversight is that the period of greatest weight change, viz., from birth to six months or even one year of age is not included in the chemical changes. I am mindful of the technical difficulties of obtaining blood samples from small infants, nevertheless with microchemical methods some of these difficulties might be overcome, and some interesting statistics would be forthcoming. M.A.B.

DIE TOXOPALMOSIS BEI MENSCH UND TIER. By O. Thalhammer, Assistent der Universitaetskinderklinik Wien. Cloth. Pp. 307. Illustrations and Tables. Price $13.75. Vienna, Austria: Wilhelm Maudrich, 1957.

In this book on toxoplamosis, the author gives a comprehensive review of the various aspects of toxoplasmic infections in human beings as well as animals. He describes in great detail the causative agent, pathological findings, symptomatology of the disease and the treatment of congenital as well as acquired forms. He gives a broad evaluation of present diagnostic tests and their importance in differential diagnosis. The scope of this book is vast and fulfills an important need for workers in this field as well as pediatricians engaged in research work in this disease pattern. It is based on more than 1000 articles and papers as well as original contributions of the author himself. The extensive bibliography, together with beautiful illustrations and tables render this book an important contribution to the medical literature. M. WEICHSEL, M.D.

ATLAS OF FETAL AND NEONATAL HISTOLOGY. By Marie A. Valdes-Dapena, B.S., M.E. Pp. 200. Price $11.00. Philadelphia, Pa.: J. B. Lippincott Company, 1957.

This book is an excellent condensation and pictorial review of important histologic and embryologic characteristics. The bibliography is well done and extensive. EDWARD SANTORA, M.D.

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1. Kaessler, H. W.: Arch. Ped. 74:47 (Feb.) 1957.
2. Kahan, H. *et al.*: Arch. Ped. 73:125 (Apr.) 1956.
3. Editorial: J.A.M.A. 165:254 (Sept. 21) 1957.

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